Shaw Environmental, Inc.
19909 120th Ave. N.E., Suite 101
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425.485.5000
Fax: 425.486.9766

Shaw™ Shaw Environmental, Inc.

August 13, 2003
Project 845873

Mr. Scot Sandefur
Environmental Compliance Manager
American Tower Corporation
220 North William Dillard Drive
Gilbert, Arizona 85233

Re: Site Characterization at Hyak Tower Ruptured Transformer Site (Site Number 89535), Keechelus Ridge, Washington

Dear Mr. Sandefur:

Shaw Environmental, Inc. (Shaw) has prepared this letter report for American Tower Corporation (ATC) to summarize the results of site characterization activities at the Hyak Tower site on Keechelus Ridge, near Hyak, Washington (Figure 1). Sampling was conducted at the site to characterize and quantify impacted soil caused by a ruptured transformer recently discovered at the site. This project was conducted in accordance with the terms and conditions of the Master Contractor Agreement between Shaw and ATC, executed July 18, 2003, and Shaw's proposal to ATC dated July 21, 2003.

BACKGROUND

The site is a large cell-phone tower facility, including associated control and equipment sheds in a chain link fence enclosure, located on top of Keechelus Ridge overlooking Interstate 90 in central Washington (latitude 47.34733, longitude –121.30731). A ruptured transformer is located adjacent to a power pole to the southwest and outside of the main tower enclosure. The pole is located in a cleared area with some scrub vegetation, which slopes to the southwest toward a wooded hillside.

According to ATC employee Dave Drolet, a power outage at the site was identified on December 10, 2002. On December 13 or 14, 2002, Potelco utility contractors went to the site and discovered that the transformer insulators had been damaged by an apparent gunshot and a bullet hole was in the transformer. The transformer was taken down and reportedly "wrapped up" and contained on site, and replaced by a new transformer on the pole. The site was also reportedly covered in snow, and no staining was identified at the time. On June 12, 2003, after the spring thaw, Mr. Drolet visited the site and identified staining on surface soils. The transformer was reportedly standing upright against the base of the power pole. Shaw personnel later found the transformer tipped over on its side.

SITE CHARACTERIZATION

A Shaw environmental engineer visited the site on July 26, 2003 to conduct site characterization activities. The ruptured transformer was found lying on its side on the ground near the base of a power pole (which was equipped with a newer-looking transformer). A hole, which appeared to have been made by a bullet, was observed in the side of the transformer. Electrical insulators on the top of the transformer were also damaged and loose, creating openings in the top. Clear plastic had been wrapped around the top of the transformer in an attempt to seal the top from further leakage. The transformer still contained approximately one-half of its dielectric fluid.

Visible oil staining was observed around the transformer, down slope of the transformer in the clearing, and several feet into the nearby wooded area. The darkest staining was observed in a shallow depression/ditch located along the fall-line of the power pole. Evidence of distressed vegetation was observed within the stained area. Based on measurements taken during the inspection, a total of approximately 150 square feet of surface soil exhibited signs of staining. Several shallow test trenches were dug in the stained area, and vertical staining was observed from the surface down to approximately 2 to 6 inches below ground surface. Figure 2 provides a diagram of the site and approximate area of staining. Using 6 inches as a conservative value for the stained depth, it appears that approximately 75 cubic feet (2.78 cubic yards) of soil were impacted by the release. Photos of the transformer and staining are included in Attachment B.

Shaw collected a sample of the transformer's dielectric fluid (TF1:072503) and three soil samples (SS1:0-4":072503; SS2:0-5":072503; SS3:0-4":072503) within the limits of visible surface staining. Note that the date code (072503) on all the sample identifications and the dates on the sample chain-of-custody forms (7/25/03) were incorrectly labeled; samples were collected on July 26, 2003. Soil samples were collected as vertical composites from soil surface to the approximate lower vertical limit of visible staining. All samples were collected into laboratory-prepared glass sample containers and stored in a chilled cooler for delivery to the laboratory. Samples were appropriately labeled and proper chain-of-custody protocols were followed.

RESULTS AND CONCLUSIONS

Soil and fluid samples were delivered to North Creek Analytical laboratory for analysis. Samples were analyzed for polychlorinated biphenyls (PCBs) by Method SW8082 and oil-range total petroleum hydrocarbons by Method NWTPH-Dx. A copy of the laboratory analytical results is included as Attachment C.

Analytical results indicated that the transformer dielectric fluid contained 1,020,000 milligrams per kilogram (mg/kg) quantified as diesel range hydrocarbons. However, inspection of the chromatograms by laboratory personnel indicated that the material is consistent with mineral oil and was quantified at 904,000 mg/kg mineral oil. No detectable concentrations of PCBs were

reported for the transformer oil sample. Because the oil sample did not contain PCBs, soil samples were not analyzed for PCBs. Soil samples contained concentrations of mineral oil at concentrations between 26,200 mg/kg and 70,900 mg/kg. The Washington State Department of Ecology (WSDOE) Model Toxics Control Act (MTCA) Method A Soil Compliance Cleanup Levels (CCL[a]) for Unrestricted Land Uses is 4,000 mg/kg for mineral oil.

Based on these results, soil concentrations of mineral oil exceed the MTCA CCL(a) for mineral oil and require cleanup to a level determined to be more protective of human health and the environment. WSDOE administers a voluntary cleanup program for sites that have had releases of hazardous substances.

Under Washington Administrative Code 173-340-300, "Any owner or operator who has information that a hazardous substance has been released to the environmental at the owner or operator's facility and may be a threat to human health or the environment shall report such information to the department within ninety days of discovery." The report must include much of the information contained in this report, as well as any remedial actions planned, completed, or underway.

Once you have had an opportunity to review this report, please feel free to contact us with any questions or if we can be of further assistance. We appreciate the opportunity to provide you with our services and look forward to working with you again in the future.

Sincerely,

SHAW ENVIRONMENTAL, Inc.

Piper Roelen, EIT
Project Engineer

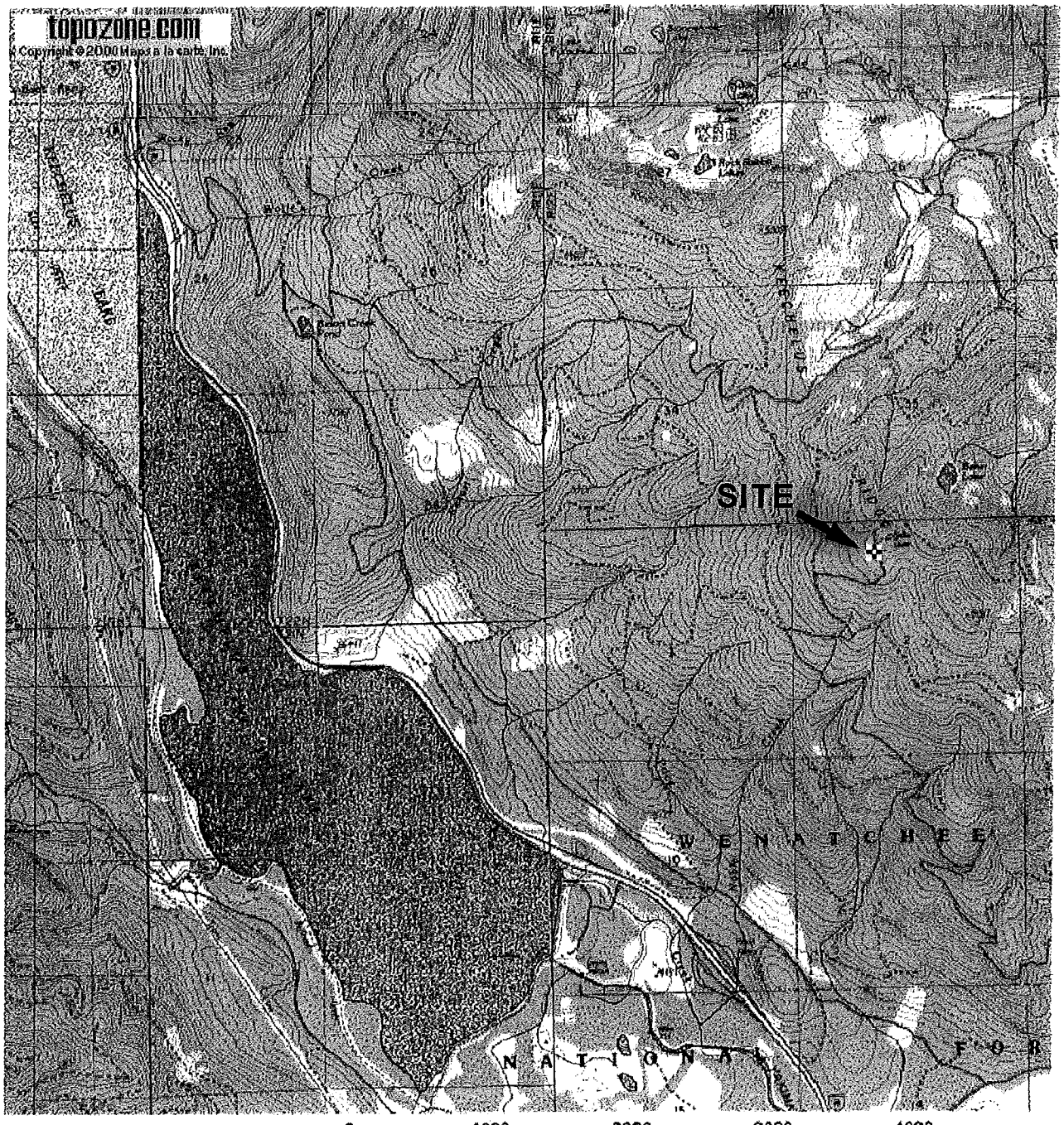
Geoffrey Compeau, Ph.D.
Program Manager

Attachments: A – Figures
B – Site Photographs
C – Laboratory Analytical Results

ATTACHMENT A

FIGURES

DRAWN BY	CHECKED BY	APPROVED BY	OFFICE	DRAWING NUMBER
MPortacio 7/2003			BOTHELL	-



WASHINGTON

LAT: 47.34733
LONG: −121.30731

SOURCE:

TopoZone.com – Target is UTM 10 627854E 5244929N – Stampede Pass Quad

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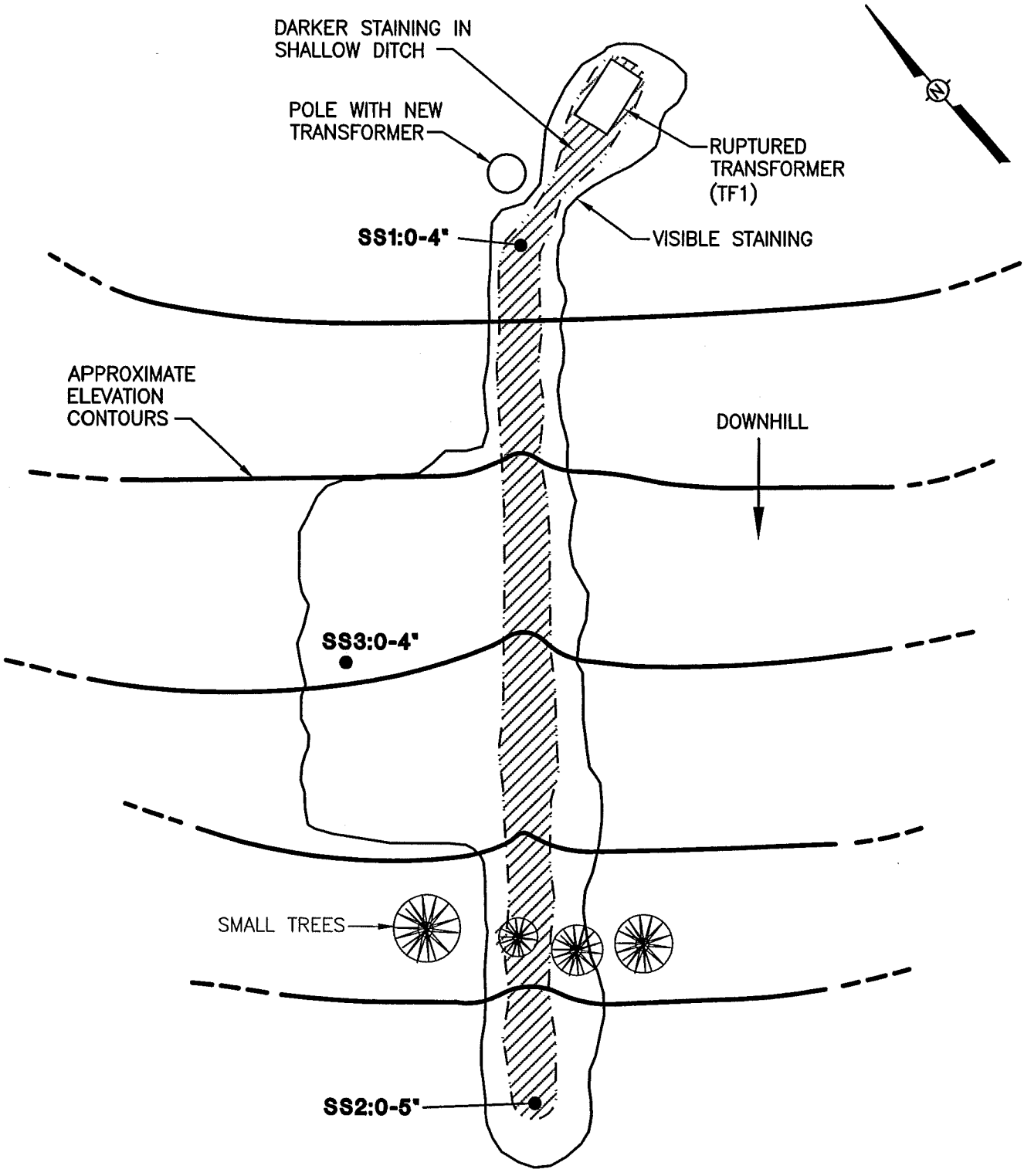
FIGURE 1

SITE LOCATION MAP

HYAK TRANSFORMER
KEECHELUS RIDGE, WASHINGTON

Image: WEN-SITE1.tif
N:\Project\final\misfiled\wenatchee\BT-WENATCHEE-F1.dwg User:maria.portacio Plotted:Aug 13, 2003 – 12:21pm Last Saved:Jul 30, 2003 – 1:03pm



LEGEND:

- ● SOIL SAMPLE LOCATION
- APPROXIMATED ELEVATION CONTOURS

SCALE

0 4 8 FEET

DRAWN BY	CHECKED BY	APPROVED BY	OFFICE	DRAWING NUMBER
MPortacio 7/2003			BOTHELL	-

N:\Project\final\mlafflet\wenatchee\BT-WENATCHEE-F2.dwg User:maria.portacio Plotted:Jul 30, 2003 - 1:10pm Last Save:Jul 30, 2003 - 1:10pm

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FIGURE 2

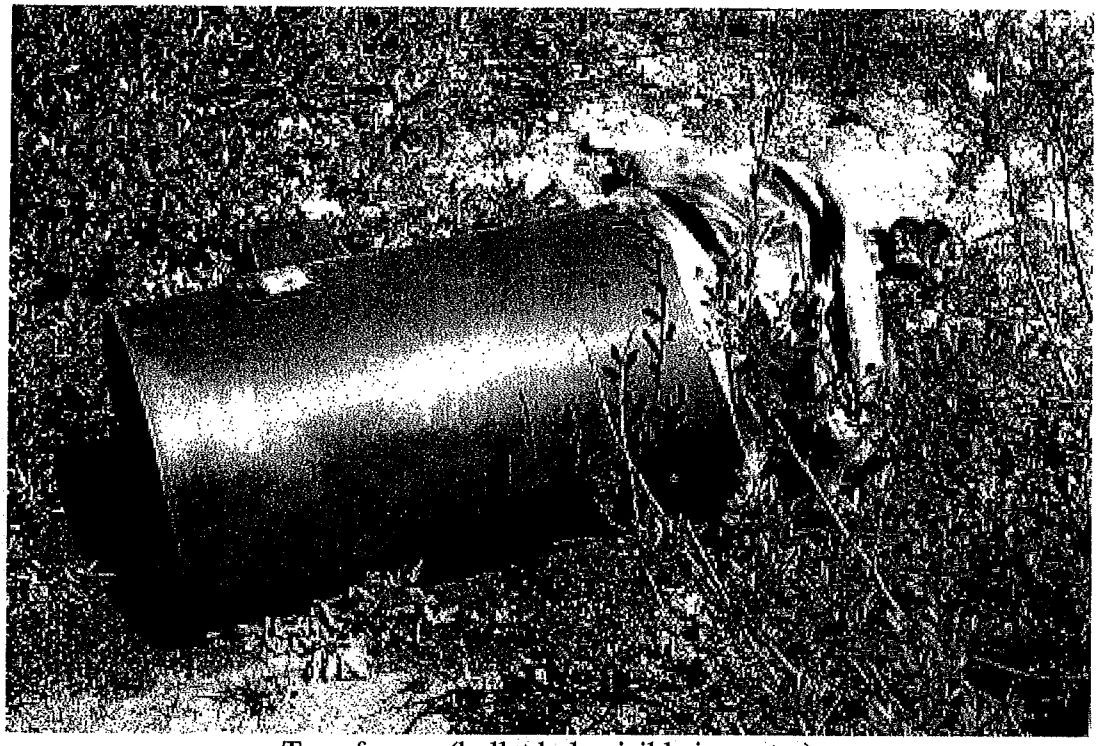
SITE SKETCH

HYAK TRANSFORMER
KEECHELUS RIDGE, WASHINGTON

ATTACHMENT B

SITE PHOTOGRAPHS

SITE PHOTOGRAPHS



Transformer (bullet hole visible in center)

Looking up hill (northeast) at soil staining.

SITE PHOTOGRAPHS, cont.

Looking downhill (southwest) at transformer and staining.

ATTACHMENT C

LABORATORY ANALYTICAL RESULTS

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08 August 2003

Piper Roelen
Shaw E & I
19909 120th Ave. NE Suite 101
Bothell, WA/USA 98011

RE: Hyak Transformer

Enclosed are the results of analyses for samples received by the laboratory on 07/28/03 12:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeanne Garthwaite
Project Manager

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Shaw E & I	Project: Hyak Transformer	
19909 120th Ave. NE Suite 101	Project Number: None	**Reported:**
Bothell, WA/USA 98011	Project Manager: Piper Roelen	08/08/03 13:51

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS1:0-4":072503	B3G0637-01	Soil	07/25/03 10:45	07/28/03 12:00
SS2:0-5":072503	B3G0637-02	Soil	07/25/03 10:45	07/28/03 12:00
SS3:0-4":072503	B3G0637-03	Soil	07/25/03 10:45	07/28/03 12:00
TF1:072503	B3G0637-04	Other wet	07/25/03 11:00	07/28/03 12:00

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jeanne Garthwaite

Jeanne Garthwaite, Project Manager

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Shaw E & I	Project: Hyak Transformer	
19909 120th Ave. NE Suite 101	Project Number: None	**Reported:**
Bothell, WA/USA 98011	Project Manager: Piper Roelen	08/08/03 13:51

Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SS1:0-4":072503 (B3G0637-01) Soil	**Sampled: 07/25/03 10:45**		**Received: 07/28/03 12:00**						
Mineral Oil Range Hydrocarbons	**19200**		mg/kg dry	100	3G29024	07/29/03	08/05/03	NWTPH-Dx	
Diesel Range Hydrocarbons	**26200**	1000	"	"	"	"	07/30/03	"	D-06
Lube Oil Range Hydrocarbons	ND	2500	"	"	"	"	"	"	
Surrogate: 2-FBP	*%*	*50-150*			"	"	"	"	*S-01*
Surrogate: Octacosane	*%*	*57-120*			"	"	"	"	*S-01*
SS2:0-5":072503 (B3G0637-02) Soil	**Sampled: 07/25/03 10:45**		**Received: 07/28/03 12:00**						
Mineral Oil Range Hydrocarbons	**51700**		mg/kg dry	100	3G29024	07/29/03	08/05/03	NWTPH-Dx	
Diesel Range Hydrocarbons	**70900**	2500	"	"	"	"	07/31/03	"	D-06
Lube Oil Range Hydrocarbons	ND	6250	"	"	"	"	"	"	
Surrogate: 2-FBP	*%*	*50-150*			"	"	"	"	*S-01*
Surrogate: Octacosane	*%*	*57-120*			"	"	"	"	*S-01*
SS3:0-4":072503 (B3G0637-03) Soil	**Sampled: 07/25/03 10:45**		**Received: 07/28/03 12:00**						
Mineral Oil Range Hydrocarbons	**23000**		mg/kg dry	100	3G29024	07/29/03	08/05/03	NWTPH-Dx	
Diesel Range Hydrocarbons	**29500**	1000	"	"	"	"	07/31/03	"	D-06
Lube Oil Range Hydrocarbons	ND	2500	"	"	"	"	"	"	
Surrogate: 2-FBP	*%*	*50-150*			"	"	"	"	*S-01*
Surrogate: Octacosane	*%*	*57-120*			"	"	"	"	*S-01*
TF1:072503 (B3G0637-04) Other wet	**Sampled: 07/25/03 11:00**		**Received: 07/28/03 12:00**						
Mineral Oil Range Hydrocarbons	**904000**		mg/kg	100	3G31011	07/31/03	08/05/03	NWTPH-Dx	
Diesel Range Hydrocarbons	**1020000**	150000	"	"	"	"	07/31/03	"	D-06
Lube Oil Range Hydrocarbons	ND	375000	"	"	"	"	"	"	
Surrogate: 2-FBP	*%*	*50-150*			"	"	"	"	*S-01*
Surrogate: Octacosane	*%*	*57-120*			"	"	"	"	*S-01*

North Creek Analytical - Bothell

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Jeanne Garthwaite

Jeanne Garthwaite, Project Manager

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Shaw E & I	Project: Hyak Transformer	
19909 120th Ave. NE Suite 101	Project Number: None	**Reported:**
Bothell, WA/USA 98011	Project Manager: Piper Roelen	08/08/03 13:51

Polychlorinated Biphenyls in Oil by EPA Method 8082
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TF1:072503 (B3G0637-04RE1) Other wet Sampled: 07/25/03 11:00 Received: 07/28/03 12:00									
Aroclor 1016	ND	2.00	mg/kg	2	3H05033	08/05/03	08/08/03	EPA 8082	
Aroclor 1221	ND	2.00	"	"	"	"	"	"	
Aroclor 1232	ND	2.00	"	"	"	"	"	"	
Aroclor 1242	ND	2.00	"	"	"	"	"	"	
Aroclor 1248	ND	2.00	"	"	"	"	"	"	
Aroclor 1254	ND	2.00	"	"	"	"	"	"	
Aroclor 1260	ND	2.00	"	"	"	"	"	"	
Aroclor 1262	ND	2.00	"	"	"	"	"	"	
Aroclor 1268	ND	2.00	"	"	"	"	"	"	
Surrogate: TCX	*56.2 %*	*40-130*			"	"	"	"	
Surrogate: Decachlorobiphenyl	*51.5 %*	*40-130*			"	"	"	"	

North Creek Analytical - Bothell

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Shaw E & I	Project: Hyak Transformer	
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Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SS1:0-4":072503 (B3G0637-01) Soil	**Sampled: 07/25/03 10:45**		**Received: 07/28/03 12:00**						
Dry Weight	**90.7**	1.00	%	1	3G31003	07/31/03	08/01/03	BSOPSPL003R07	
SS2:0-5":072503 (B3G0637-02) Soil	**Sampled: 07/25/03 10:45**		**Received: 07/28/03 12:00**						
Dry Weight	**83.1**	1.00	%	1	3G31003	07/31/03	08/01/03	BSOPSPL003R07	
SS3:0-4":072503 (B3G0637-03) Soil	**Sampled: 07/25/03 10:45**		**Received: 07/28/03 12:00**						
Dry Weight	**88.2**	1.00	%	1	3G31003	07/31/03	08/01/03	BSOPSPL003R07	

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19909 120th Ave. NE Suite 101	Project Number: None	**Reported:**
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Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up) - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3G29024: Prepared 07/29/03 Using EPA 3550B										
Blank (3G29024-BLK1)										
Mineral Oil Range Hydrocarbons	ND	25.0	mg/kg							
Diesel Range Hydrocarbons	ND	10.0	"							
Lube Oil Range Hydrocarbons	ND	25.0	"							
Surrogate: 2-FBP	*9.75*		"	*10.7*		*91.1*	*50-150*			
Surrogate: Octacosane	*5.65*		"	*5.33*		*106*	*57-120*			
LCS (3G29024-BS1)										
Diesel Range Hydrocarbons	63.6	10.0	mg/kg	66.7		95.4	70-130			
Surrogate: 2-FBP	*9.58*		"	*10.7*		*89.5*	*50-150*			
LCS Dup (3G29024-BSD1)										
Diesel Range Hydrocarbons	61.6	10.0	mg/kg	66.7		92.4	70-130	3.19	40	
Surrogate: 2-FBP	*10.2*		"	*10.7*		*95.3*	*50-150*			
Duplicate (3G29024-DUP1)					**Source: B3G0606-01**					
Diesel Range Hydrocarbons	6280	400	mg/kg dry		6020			4.23	40	
Lube Oil Range Hydrocarbons	3800	1000	"		3680			3.21	40	
Surrogate: 2-FBP	*ND*		"	*12.0*			*50-150*			*S-01*
Surrogate: Octacosane	*ND*		"	*5.99*			*57-120*			*S-01*
Batch 3G31011: Prepared 07/31/03 Using EPA 3580A										
Blank (3G31011-BLK1)										
Mineral Oil Range Hydrocarbons	ND	3750	mg/kg							
Diesel Range Hydrocarbons	ND	1500	"							
Lube Oil Range Hydrocarbons	ND	3750	"							
Surrogate: 2-FBP	*1420*		"	*1600*		*88.8*	*50-150*			
Surrogate: Octacosane	*728*		"	*900*		*80.9*	*57-120*			

North Creek Analytical - Bothell

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Jeanne Garthwaite

Jeanne Garthwaite, Project Manager

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Bothell, WA/USA 98011	Project Manager: Piper Roelen	08/08/03 13:51

Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up) - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3G31011: Prepared 07/31/03 Using EPA 3580A										
LCS (3G31011-BS1)										
Diesel Range Hydrocarbons	8730	1500	mg/kg	10000		87.3	70-130			
Surrogate: 2-FBP	*1580*		"	*1600*		*98.8*	*50-150*			
LCS Dup (3G31011-BSD1)										
Diesel Range Hydrocarbons	8990	1500	mg/kg	10000		89.9	70-130	2.93	40	
Surrogate: 2-FBP	*1590*		"	*1600*		*99.4*	*50-150*			

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Polychlorinated Biphenyls in Oil by EPA Method 8082 - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3H05033: Prepared 08/05/03 Using EPA 3580A										
Blank (3H05033-BLK1)										
Aroclor 1016	ND	1.00	mg/kg							
Aroclor 1221	ND	1.00	"							
Aroclor 1232	ND	1.00	"							
Aroclor 1242	ND	1.00	"							
Aroclor 1248	ND	1.00	"							
Aroclor 1254	ND	1.00	"							
Aroclor 1260	ND	1.00	"							
Aroclor 1262	ND	1.00	"							
Aroclor 1268	ND	1.00	"							
Surrogate: TCX	*0.387*		"	*0.400*		*96.8*	*40-130*			
Surrogate: Decachlorobiphenyl	*0.371*		"	*0.400*		*92.8*	*40-130*			
LCS (3H05033-BS1)										
Aroclor 1016	4.60	1.00	mg/kg	5.00		92.0	30-132			
Aroclor 1260	4.74	1.00	"	5.00		94.8	30-132			
Surrogate: TCX	*0.405*		"	*0.400*		*101*	*40-130*			
Surrogate: Decachlorobiphenyl	*0.377*		"	*0.400*		*94.2*	*40-130*			
LCS Dup (3H05033-BSD1)										
Aroclor 1016	4.79	1.00	mg/kg	5.00		95.8	30-132	4.05	19	
Aroclor 1260	4.95	1.00	"	5.00		99.0	30-132	4.33	19	
Surrogate: TCX	*0.414*		"	*0.400*		*104*	*40-130*			
Surrogate: Decachlorobiphenyl	*0.395*		"	*0.400*		*98.8*	*40-130*			

www.ncalabs.com

Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
425.420.9200 fax 425.420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
509.924.9200 fax 509.924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
503.906.9200 fax 503.906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588
Anchorage 2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119
907.563.9200 fax 907.563.9210

Shaw E & I	Project: Hyak Transformer	
19909 120th Ave. NE Suite 101	Project Number: None	**Reported:**
Bothell, WA/USA 98011	Project Manager: Piper Roelen	08/08/03 13:51

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3G31003: Prepared 07/31/03 Using Dry Weight										
Blank (3G31003-BLK1)										
Dry Weight	99.8	1.00	%							

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Shaw E & I	Project: Hyak Transformer	
19909 120th Ave. NE Suite 101	Project Number: None	**Reported:**
Bothell, WA/USA 98011	Project Manager: Piper Roelen	08/08/03 13:51

Notes and Definitions

D-06	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
S-01	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interferences.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-9508 425-420-9200 FAX 420-9210 [X]
11115 E Montgomery Suite B, Spokane, WA 99206-4776 509-924-9200 FAX 924-9290 [ ]
9405 SW Nimbus Ave, Beaverton, OR 97008-7132 503-906-9200 FAX 906-9210 [ ]
20332 Empire Ave Suite F-1, Bend, OR 99701-5711 541-383-9310 FAX 382-7588 [ ]
3209 Denali St, Anchorage, AK 99503-4030 907-334-9200 FAX 334-9210 [ ]

CHAIN OF CUSTODY REPORT

Work Order #: B3G0137

CLIENT: Shaw Environmental, Inc.

REPORT TO: Piper Roelen
ADDRESS: 19909 120th Ave NE, Ste 101 Bothell, WA 98011
PHONE: 425-402-3228 FAX: 425-986-9766

INVOICE TO: SAME

P.O. NUMBER:

PROJECT NAME: Hyak Transformer
PROJECT NUMBER:
SAMPLED BY: PMR

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: 10 STD. | 7 | [X] | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses: [X] STD. | 4 | 3 | 2 | 1 | <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE	REQUESTED ANALYSES: PCB	REQUESTED ANALYSES: TPH-Dx	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	NCA WO ID
1	SS1:0-4":072503	7/25/03 10:45		X	X	S	1		01
2	SS2:0-5":072503	7/25/03 10:45		X	X	S	1		02
3	SS3:0-4":072503	7/25/03 10:45		X	X	S	1		03
4	TF1:072503	7/25/03 11:00		X	X	oil	2		04
5									
6									
7									
8								Samples will be stored Upon Receipt.	
9									
10									

RELEASED BY: PRINT NAME: Piper Roelen FIRM: Shaw DATE: 7/26/03 TIME: 12:00

RECEIVED BY: Cathy Gamble PRINT NAME: Cathy Gamble FIRM: NCA DATE: 7/28/03 TIME: 12:00

RELEASED BY: PRINT NAME: FIRM: DATE: TIME:

RECEIVED BY: PRINT NAME: FIRM: DATE: TIME:

ADDITIONAL REMARKS: If TF1 is non-detect for PCB, analyze soil for TPH-Dx only

COC REV 1/03

TEMP: 14.3°

PAGE 1 OF 1